The opinion in support of the decision being entered today is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HYEON JUN KIM and JI EUN LEE

Appeal 2007-2513
Application 09/785,443
Technology Center 2600

Decided: September 26, 2007

Before JOSEPH F. RUGGIERO, ANITA PELLMAN GROSS, and ST. JOHN COURTENAY, III, *Administrative Patent Judges.*

GROSS, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Kim and Lee (Appellants) appeal under 35 U.S.C. § 134 from the Examiner's Final Rejection of claims 1, 2, 4 through 7, 9 through 18, and 28 through 33, which are all of the claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b). An oral hearing on this appeal was conducted on September 12, 2007.

Appellants' invention relates to a system for retrieving multimedia data using color histograms constructed with different color spaces and different color quantization methods. See generally Specification 6:5-9. Claim 1 is illustrative of the claimed invention, and it reads as follows:

1. A content-based multimedia retrieval system, comprising:

a first color quantizer which extracts a color histogram of query multimedia data;

a second color quantizer which extracts a color histogram of multimedia data to be retrieved; and

a histogram converter which converts the color histogram of one of the extracted query multimedia data and the multimedia data to be retrieved into a histogram having a color space and color quantization method of the other of the extracted query multimedia data and the multimedia data to be retrieved.

The prior art references of record relied upon by the Examiner in rejecting the appealed claims are:

Yaung	US 6,512,850 B2	Jan. 28, 2003 (filed Dec. 09, 1998)
Bergman	US 6,564,263 B1	May 13, 2003 (filed Dec. 03, 1999)

Claims 1, 2, 4 through 7, 9 through 11, 13 through 18, and 28 through 33 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Bergman.

Claim 12 stands rejected under 35 U.S.C. § 103 as being unpatentable over Bergman in view of Yaung.

We refer to the Examiner's Answer (mailed August 29, 2005) and to Appellants' Brief (filed July 13, 2006) and Reply Brief (filed October 28, 2005) for the respective arguments.

SUMMARY OF DECISION

As a consequence of our review, we will affirm the anticipation rejection of claims 1, 2, 5 through 7, 9 through 11, and 28 through 33 and the obviousness rejection of claim 12 and reverse the anticipation rejection of claims 4 and 13 through 18.

OPINION

Appellants contend (Br. 8-9 and Reply Br. 1-3) that Bergman discloses converting a histogram "based on color space," but not "based also on color quantization, as recited in independent claim 1" (See Br. 8). Appellants explain that the example in Bergman in columns 13-14 has the same number of bins (or quantization methods) for both histograms, and, therefore, does not base the conversion on the color quantization. Appellants present no further arguments for claim 1. The Examiner asserts (Answer 7) that the phrase "based on" does not appear in independent claim 1, and that Bergman converts one histogram with a given color space and color quantization into another histogram having a given color space and color quantization, as recited in claim 1. The first issue is, therefore, whether claim 1 requires that the conversion be "based on" both color space and color quantization.

Independent claim 1 reads in pertinent part, "a histogram converter which converts the color histogram of one ... into a histogram having a color space and color quantization method of the other." As indicated by the Examiner, the phrase "based on" does not appear in claim 1. The color histograms disclosed by Bergman include both color space and bin number (or color quantization method). In the example at column 13, line 39-

column 14, line 2, Bergman converts a query color histogram having a RGB color space and bin number of 512 into an archive histogram having a different color space derived from the RGB color space and a bin number of 512. Since the two color spaces are different, the histograms as a whole are different. After the conversion, the histograms as a whole are the same, since both the color space and the bin number are the same. Thus, Bergman discloses converting a query histogram into another histogram having a color space and color quantization method of an archive histogram. Accordingly, we will sustain the anticipation rejection of independent claim 1 and the claims argued therewith, claims 2 and 5.

As to claim 4, Appellants contend (Br. 9-10 and Reply Br. 4) that Bergman fails to disclose both a color space description means and also a quantization description means, as recited in the claim. The Examiner (Answer 9) asserts that Bergman discloses both description means as each histogram defines both color space and color quantization method. The second issue, accordingly, is whether Bergman discloses the two recited description means.

Bergman (col. 13, ll. 1-6) refers to a color descriptor that defines a histogram as having a particular color space and bin number. Bergman does not disclose a description means defining color space and a separate description means defining color quantization method. Although the word "separate" or the like is not recited in claim 4, the recitation of two different description means suggests two separate elements, which are not found in Bergman. Therefore, we will reverse the anticipation rejection of claim 4.

Claim 6 includes the same language as claim 1 for the conversion element/step. Appellants (Br. 10 and Reply Br. 3-4) set forth the same

contentions as for claim 1. As we have found that the language relied upon by Appellants neither appears in nor is implied by the claims, we will sustain the anticipation rejection of claim 6 and the claims which are argued therewith, claims 7 and 11.

For claims 9 and 10, Appellants (Br. 10-12) repeat the claims verbatim in their entirety, discuss the relevant portions of the Specification, and conclude with a statement that "Bergman does not disclose or suggest such features." Appellants do not indicate which steps are allegedly lacking from Bergman and do not explain why the portions referenced by the Examiner (Answer 4-5), the same portions referenced by the Examiner in the Final Rejection, do not satisfy the language of claims 9 and 10. Appellants contend (Reply Br. 4-5) that Bergman's conversion is not based on color space and color quantization method and, therefore, the Examiner's statement (Answer 11) that "the comparison has to be inherent" is in error. Thus, Appellants' contention regarding claims 9 and 10 appears to be that Bergman does not disclose the claimed step of "converting the color histograms into the color histograms having the same color space and color quantization method when the color histogram[s] ... are not the same," because Bergman only converts color space, not color quantization method. As such, the issue for claims 9 and 10 is whether Bergman discloses the claimed conversion step.

As discussed *supra*, Bergman discloses a beginning histogram with a different color space than an ending histogram. Since the color spaces are different, the histograms as a whole are different. Bergman discloses converting the starting histogram into the ending one. Thus, even though the color quantization methods of the starting and ending histograms are the

same, Bergman satisfies the claim language of claims 9 and 10. Accordingly, we will sustain the anticipation rejection of claims 9 and 10.

Independent claim 13 recites a step of converting one histogram into another "when the color spaces and color quantization methods ... are different [from] each other." Similar language is recited in independent claim 17. Thus, claims 13 and 17 differ from independent claims 1 and 6, as they do require that both the color space and also the color quantization method of the query data be different from those of the data to be retrieved. Since Bergman's example has the same bin number for both histograms, and since Bergman only specifies (col. 13, ll. 60-66) that the color space must be transformed, we would have to speculate as whether Bergman also does a conversion of the color quantization method. Consequently, we cannot sustain the anticipation rejection of claims 13 and 17 and their dependents, claims 14 through 16 and 18.

As to claim 28, Appellants contend (Br. 13-14 and Reply Br. 6) that Bergman fails to disclose a description means for describing both a color space and a color quantization method, as Bergman does not take into consideration the color quantization method when transforming histograms. Further, Appellants contend that Bergman does not disclose extracting a color histogram using a method "which is the same as the described color space and color quantization method." The issue for claim 28 is whether Bergman discloses a description means for describing both a color space and a color quantization method and extracting a color histogram using a method which is the same as the described color space and color quantization method.

As indicated *supra*, Bergman (col. 13, ll. 1-6) refers to a color descriptor that defines a histogram as having a particular color space and bin number. Although Bergman does not disclose a description means defining color space and a separate description means defining color quantization method, claim 28 merely requires a description means for both. Thus, Bergman discloses the claimed description means. As to using a method which is the same as the described color space and color quantization method, as indicated *supra*, Bergman transforms one histogram such that it has the same color space and color quantization method as the other. Therefore, we will sustain the anticipation rejection of claim 28.

Regarding claims 29 and 30, Appellants contend (Br. 14) that Bergman fails to disclose "a retrieval unit for calculating a similarity between the color histogram of the query multimedia data extracted before[1] and the color histogram of the multimedia data to be retrieved." As explained by the Examiner (Answer 14), Bergman transforms one histogram to the same color space and color quantization method as another histogram so as to be able to compare the two and retrieve the best responses to a search query. Thus, Bergman calculates the similarities, and we will sustain the anticipation rejection of claims 29 and 30.

For claim 31, Appellant (Br. 14-15) states what is recited in the claim and discusses portions of the Specification, but does not indicate what specifically is supposedly lacking from Bergman. In fact, Bergman is not even mentioned. Therefore, we will *pro forma* sustain the anticipation rejection of claim 31.

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[1] We note that claim 29 is unclear as to what the extraction occurs before. Similar language appears in claim 32.

Appellants contend (Br. 15 and Reply Br. 7-8) that for claims 32 and 33, Bergman "does not judge histograms based on color quantization nor does it perform such a judgment in advance of performing a similarity calculation." The Examiner asserts (Answer 15-16) that "based on" is not recited in the claims and that the judging step is inherent in Bergman because "one need[s] to know before whether or not the archived multimedia data is compatible with the query multimedia data Q." The issues for claims 32 and 33, therefore, are whether the claims require judging based on color quantization and whether the claimed judging step is inherent in Bergman.

As to judging histograms "based on color quantization," no such language appears in claims 32 and 33. Therefore, we find Appellants' first contention beyond the scope of the claims. As to whether judging is inherent to Bergman, we agree with the Examiner that before calculating a similarity between two histograms, a determination must be made as to whether the histograms are comparable. Bergman inherently performs the judging step prior to converting one histogram into another. Accordingly, we will sustain the anticipation rejection of claims 32 and 33.

The Examiner (Answer 6) rejects claim 12 under 35 U.S.C. § 103, combining Yaung with Bergman. Appellants (Br. 15-16) merely contend that Yaung fails to cure the alleged deficiency of Bergman as applied to claim 6, from which claim 12 depends. As we have found no error in the rejection of claim 6 over Bergman, we will sustain the obviousness rejection of claim 12 over Bergman and Yaung.

ORDER

The decision of the Examiner rejecting claims 1, 2, 4 through 7, 9 through 11, 13 through 18, and 28 through 33 under 35 U.S.C. § 102(e) and claim 12 under 35 U.S.C. § 103 is affirmed as to claims 1, 2, 5 through 7, 9 through 12, and 28 through 33 and reversed as to claims 4 and 13 through 18.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

tdl/gw

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